REMARKS

The Applicants are filing this Amendment and Response in response to an Office Action dated June 3, 2010. At the time of the Office Action, claims 1-46 were pending. In response to the Office Action, the Applicants have amended claims 1-3, 5, 11-18, 21, 22, 24-26, 33, 35, 38, and 40-46 to correct typographical errors and to clarify the claims. No new matter has been added by way of these amendments. Upon entry of the amendments, claims 1-46 remain pending. Based on the foregoing amendments and the following remarks, the Applicants respectfully assert that all pending claims are in condition for allowance.

In the Office Action, the Examiner checked box 9 on the Office Action Summary page, indicating the specification is objected to by the Examiner. However, the Examiner gave no further indication or discussion of such an objection. Therefore, the Applicants respectfully assume that the Examiner inadvertently checked box 9 on the Office Action Summary page without intending to object to the specification, and that the Examiner did not actually object to the specification.

In the Office Action, the Examiner rejected claims 1-46 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0200290 by Zimmerman, et al. (hereinafter "Zimmerman") in view of U.S. Patent No. 6,857,069 to Rissmeyer, et al. (hereinafter "Rissmeyer"). This rejection is discussed in detail below.

Claim Rejection under 35 U.S.C. § 103(a)

With regard to the rejection of claims 1-46 under 35 U.S.C. § 103(a), the Examiner specifically stated:

> **Regarding claim 1:**
> **Zimmerman discloses** a method, performed by a suitably programmed computer, for software emulation of hard disks of a data processing platform at the level of the

> operating system with parameterizable management of
> requests for writing and reading data consisting in:
>
> a. creating a representation of a real hard disk
> wherein the location for loading and execution of
> components of the operating system of the data processing
> platform may be modified (**[0019]: drives hold O/S;
> [0058]: drives may comprise any nonvolatile storage
> devices**) . . .
>
> **Zimmerman does not explicitly disclose**
> modifying the sequence for loading and executing of
> components of the operating system of the data processing
> platform may be modified. **Rissmeyer teaches** modifying
> the sequence for loading and executing of components of
> the operating system of the data processing platform may
> be modified (**column 1 lines 46-59: loading a network
> driver before loading a disk driver in an OS booting
> over a network**). At the time of the invention, it would
> have been obvious to one of ordinary skill in the art to
> combine the teachings of Zimmerman and Rissmeyer
> because this allows the traditional controlling of devices
> prior to booting to occur without customized parts
> (**Rissmeyer: column 1 lines 11-44**).

Office Action, pp. 3-4 (emphasis in original). The Applicants respectfully traverse this rejection.

The burden of establishing a *prima facie* case of obviousness falls on the Examiner. *Ex parte Wolters and Kuypers*, 214 U.S.P.Q. 735 (B.P.A.I. 1979). To establish *prima facie* obviousness of a claimed invention, all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 180 U.S.P.Q. 580 (C.C.P.A. 1974). Although a showing of obviousness under 35 U.S.C. § 103 does not require an express teaching, suggestion or motivation to combine prior art references, such a showing has been described by the Supreme Court as providing a "helpful insight" into the obviousness inquiry. *KSR Int'l. Co. v. Teleflex, Inc.*, 550 U.S. 398, 401, 82 U.S.P.Q.2d 1385, 1389 (2007). Moreover, obviousness cannot be established by a mere showing that each claimed element is present in the prior art. *Id.* The Examiner must cite a

compelling reason why a person having ordinary skill in the art would combine known elements in order to support a proper rejection under 35 U.S.C. § 103. *Id.*

Zimmerman and Rissmeyer, alone or in any type of combination, fail to disclose all of the elements of claims 1-46.

As explained in the present specification:

> In order to permit the startup from an emulated hard disk, *the sequence of loading of the components of the operating system may require an adaptation* so that all components of the operating system on which the peripheral drivers depend permit access to the emulated hard disk according to the invention are loaded and usable at the instant when the operating system needs to access the emulated hard disk by using the peripheral drivers and no longer using the "firmware" functions (BIOS).

Specification, p. 13, ll. 12-18 (emphasis added); *see also id.* at p. 1, ll. 10-18; p. 3, ll. 3-11; p. 4, ll. 23-25 ("This total emulation, including the possibility of startup, may require adjustments of the orders of loading and execution of certain of the operating system components."); p. 11, l. 27 – p. 12, l. 8; p. 13, l. 19 – p. 14, l. 3 (providing examples of how the sequence may be modified); p. 14, ll. 4-6 ("It may therefore occur that the order of loading of the components on which the peripheral drivers permitting access to the emulated hard disk depend will have to be modified.").

Accordingly, <u>independent claim 1</u> recites, *inter alia*, "creating a representation of a real hard disk, wherein the *sequence* . . . for loading and execution of components of the operating system of the data processing platform may be modified." (Emphasis added). In the Office Action, the Examiner apparently relied on Rissmeyer to teach the "*sequence* . . . for loading and execution of components of the operating system components . . . may be modified." *See* Office Action, pp. 3-4 (citing Rissmeyer, col. 1, ll. 46-59).

However, Rissmeyer discloses a fixed order of initially loading a network driver and then loading a disk driver. *See* Rissmeyer, col. 1, ll. 46-59. Rissmeyer does not

disclose that this predetermined loading of components may be modified. Thus, Rissmeyer does not disclose that the order or sequence of loading and execution of components of an operating system changes or may be modified, as claimed.

Further, Zimmerman does not remedy this deficiency of Rissmeyer, nor did the Examiner allege so. Indeed, the Examiner admitted that Zimmerman does not disclose "modifying the sequence for loading and executing of components of the operating system" (or that the sequence "may be modified"). *See* Office Action, p. 4. For these reasons, claim 1 and its dependent claims are patentable over the cited combination.

In addition, <u>independent claim 1</u> recites "creating a representation of a real hard disk, wherein the . . . *location* for loading and execution of components of the operating system components . . . may be modified." (Emphasis added). The Examiner apparently relied on Zimmerman to teach that the "*location* for loading and execution of components of the operating system components . . . may be modified." *See* Office Action, pp. 3-4 (citing Zimmerman. paras. [0019] and [0058]). However, Zimmerman merely discloses that "the address of a server to boot from" is provided to a client 2 PC upon power-up of the client 2 PC (from hibernation). *See* Zimmerman, para. [0058]. Zimmerman does not disclose that the *location* for loading and execution of components of the operating system components may be modified.

Furthermore, Rissmeyer does not remedy this deficiency of Zimmerman. Rissmeyer is merely directed to "operation of iSCSI devices, ensuring that the network interface is available for use when the iSCSI disk driver is loaded." *See* Rissmeyer, col. 1, ll. 46-59. Rissmeyer does not disclose that the *location* for loading and execution of components of the operating system components may be modified. For at least these additional reasons, claim 1 and its dependent claims are patentable over the cited combination.

In addition, while the dependent claims are patentable by virtue of their dependency on allowable base claim 1, the dependent claims are also patentable because of the subject matter they separately recite. For example, dependent claim 12 recites "wherein if the data support . . . is a support that does *not provide for writing in real time*, or does *not accept writing of data directly* . . . the data writing requests issued by the operating system to the emulated hard disk are processed in such a way that the written data are stored in a storage space *different* from the data support containing the data of the emulated hard disk." (Emphasis added). Similarly, dependent clam 41 recites "wherein if the data storage support . . . is a support that does *not provide writing in real time*, or does *not accept write operations directly* . . . the server program . . . processes the data write requests . . . in such a way that the written data are stored in a storage space *different* from the data storage support." (Emphasis added).

Thus, dependent claims 12 and 41 require that *if* the data support (containing the data of the emulated hard disk) does *not provide for writing in real time*, or does *not accept writing of data directly* (*e.g.*, the data support is an optical CD-ROM disk), *then* written data are stored in a storage space *different* from the data support. *See* Specification, p. 7, l. 13 – p. 8, l. 12; *see also id.* at p. 3, ll. 16-19; p. 4, l. 24 – p. 5, l. 13.

In contrast, the Zimmerman client may write to the server 4, or may write cache locally (at the client) to avoid possible corruption of data at the server 4. *See* Zimmerman, para. [0069] ("That is, the storage driver caches locally all writes so that the writes are never committed to the virtual driver, in order that different clients do not simultaneously write to the same virtual image and corrupt it."); Figure 1; *see also* Office Action, pp. 6 and 11-12 (citing Zimmerman, para. [0069]). However, Zimmerman does not write to the local cache (or to a storage space different from the server 4), *in response to the server 4 unable to accept writing in real time*. *See* Zimmerman, para. [0069]; Figure 1. Zimmerman makes no mention of the server 4 being unable to accept writing in real time, contrary to the instant claims. Zimmerman also makes no mention of any

response if the server 4 is unable to accept writing in real time, much less a response to alter the storage destination if the server 4 is unable to accept writing in real time, as claimed. Further, Rissmeyer does not remedy this deficiency of Zimmerman, nor did the Examiner assert so. For these additional reasons, dependent clams 12 and 41 are patentable over the cited combination.

In another example, dependent claim 16 recites "wherein the *storage space* in which the written data are redirected may be *changed during an operating session* of the operating system of a client station." (Emphasis added). *See* Specification, p. 8, ll. 4-8 ("The storage space to which the written data are redirected may be changed on the spur of the moment during an operating session of the operating system of the client station."). Similarly, dependent claim 19 recites "wherein the data reading requests issued by the operating system are performed in *different storage spaces during an operating session.*" (Emphasis added). *See* Specification, p. 8, ll. 18-19.

In contrast, Rissmeyer does not disclose changing to a different storage space for read or write requests *during an operating session.* While Zimmerman discloses a "multi-server network" (i.e., "one or more additional servers may be coupled to the network and may communicate with the first server 4 and client PCs 2"), Zimmerman does not disclose that a target server or storage may be changed (i.e., read or write requests are redirected) during the same operating session. *See* Zimmerman, para. [0021]; Figure 1. Moreover, Rissmeyer does not remedy this deficiency of Zimmerman, nor did the Examiner assert so. For these additional reasons, dependent clams 16 and 19 are patentable over the cited combination.

In yet another example, dependent claim 20 recites "wherein the data reading requests issued by the operating system to an emulated hard disk carried out in *different storage spaces* follow an *order of priority.*" (Emphasis added). *See* Specification, p. 8, l. 20 – p. 9, l. 18. The Examiner cited paragraph [0062] of Zimmerman as disclosing these

features. *See* Office Action, p. 8. However, paragraph [0062] of Zimmerman does *not* disclose an emulated hard disk carried out in *different* storage spaces, much less that data reading requests follow an *order of priority* in such an arrangement. Instead, Zimmerman discloses that a *single* network server 4 streams data packets to clients 2. *See* Zimmerman, paras [0026]-[0027] and [0062]; Figure 1. The streamed data does not originate from different storage spaces.

Further, with regard to O/S components specifically, the *single* server 4 streams the Zimmerman O/S master boot record (MBR) in response to clients 2 requesting an O/S MBR download. *See id.* at paras. [0019] and [0062]; Figure 1. Plainly, the O/S MBR download is not streamed from *different* storage spaces, but from the single network server 4. *See id.* at para. [0062]. Furthermore, Zimmerman does not follow an *order of priority* in such streaming, much less an order of priority as with the presently-recited arrangement of different source storage spaces.

Instead, Zimmerman discloses that an invitation period is presented for clients 2 to register for the O/S MBR download. *See id.* The streaming module 26 of the network server 4 designates (based on "round-robin fashion") a first client 2 "that will be allowed to make a read request of the streaming module 26 to transmit to all the registered clients." *See id.* Such an approach including the registration of clients and the designation of a first client cannot be reasonably characterized as the recited *order of priority*. *See id.* Moreover, Rissmeyer does not remedy this deficiency of Zimmerman, nor did the Examiner assert so. For these additional reasons, dependent claim 20 is patentable over the cited combination.

For at least the reasons discussed above, the cited references, alone or in any sort of hypothetical combinations, fail to disclose all of the elements of independent claim 1. Accordingly, independent claim 1 is allowable over these references. Thus, for at least the same reasons as discussed above, claims 2-45 which depend from claim 1, are

allowable. Further, as discussed, at least dependent claims 12, 16, 19, 20, and 41 are patentable for the additional reason of the subject matter they separately recite. The Applicants respectfully request that the Examiner withdraw the instant rejection under 35 U.S.C. § 103(a) and allow the rejected claims 1-46 to issue.

The Applicants Respectfully Request Withdrawal of the Rejection under 35 U.S.C. 103(a).

The cited references relied upon by the Examiner, either alone or in any sort of hypothetical combination, fail to disclose all of the elements of claims 1-46. Accordingly, those claims cannot be rendered obvious by the cited references. The Applicants therefore respectfully request withdrawal of the rejection under 35 U.S.C. § 103(a). An indication of the allowability of those claims is earnestly solicited.

Conclusion

The Applicants respectfully assert that all pending claims are in condition for allowance. However, if the Examiner wishes to discuss any issue regarding the present

application by way of a telephone conference, the Examiner is kindly invited to contact the undersigned attorney at the telephone number indicated below.

Respectfully submitted,

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